Listing of claims:

1. (Currently Amended) A method for multi-path searching in a mobile device such that the mobile device detects delays and gains of different propagation paths for a received signal, the method for the mobile device comprising:

correlating data corresponding to a first one of the propagation paths of the received signal with a conjugate of a pilot channel sequence;

repeating the correlation for other propagation paths of the received signal, wherein the other propagation paths correspond to a first set of propagation paths that also includes the first one of the propagation paths;

coherently accumulating results corresponding to the correlation for the first set of propagation paths;

calculating ~~the~~ square-magnitudes of the coherently accumulated results corresponding to the first set of propagation paths; and

comparing the calculated square-magnitudes of the coherently accumulated results corresponding to the first set of propagation paths to a threshold to identify first search results for the first set of propagation paths from the square-magnitudes of the first set of propagation paths that surpass the threshold, wherein the first search results include corresponding delays and gains for the first set of propagation paths.

2. (Currently Amended) The method of claim 1, further comprising:

repeating the correlation for a second set of propagation paths;

coherently accumulating results corresponding to the correlation for the second set of propagation paths;

calculating ~~the~~ square-magnitudes of the coherently accumulated results corresponding to second set of propagation paths;

non-coherently accumulating the square-magnitudes of the coherently accumulated results corresponding to the first set of propagation paths with the square-magnitudes of the results corresponding to the second set of propagation paths; and

comparing the calculated square-magnitudes of the results corresponding to the second set of propagation paths to the threshold to identify second search results for the second set of propagation paths from the square-magnitudes of the second set of propagation paths that surpass the threshold, wherein the second search results include corresponding delays and gains of the second set of propagation paths.

3. (Currently Amended) The method of claim 2, wherein the calculated square magnitudes of the results corresponding to the first set of propagation paths and the calculated square magnitudes of the results corresponding to the second set of propagation paths are compared to the threshold substantially at in the same time interval.

4. (Previously Presented) The method of claim 2, further comprising stalling the pilot channel sequence for a selected interval of time prior to repeating the correlation for a the second set of propagation paths.

5. (Original) The method of claim 1, wherein the pilot channel sequence corresponds to a pseudo-random sequence that corresponds to the downlink scrambling code related to a code division multiple access system.

6. (Currently Amended) The method of claim 1, wherein data for the propagation paths from the first set of propagation paths is de-multiplexed into odd index data and even index data prior to correlating data corresponding to the first one the propagation paths of the received signal with a the conjugate of the pilot channel sequence.

7. (Currently Amended) The method of claim 1, wherein correlating data further comprises loading tap coefficients of a matched filter with a the conjugate of the pilot channel sequence, wherein the matched filter operates for a selected interval to produce the results of the correlation.

8. (Currently Amended) The method of claim 1, wherein the calculated square-magnitudes of the coherently accumulated results corresponding to the first set of propagation paths is appended to a vector that is then processed for comparison to the threshold.

9. (Currently Amended) A method for multi-path searching in a mobile device such that the mobile device detects delays and gains of different propagation paths of a received signal, the method for the mobile device comprising:

generating a pilot channel chip sequence starting from a pilot symbol boundary;

loading tap coefficients of a matched filter with a conjugate of the pilot channel sequence;

operating the matched filter to correlate a first set of data with the ~~conjugreate~~ conjugate of the pilot channel sequence to produce a first set of results corresponding to the~~a~~ first set of data, wherein the first set of data is associated with propagation paths of the received signal;

operating the matched filter to correlate a second set of data with the conjugate of the pilot channel sequence to produce a second set of results corresponding to the second set of data, wherein the second set of data is associated with propagation paths for the received signal;

coherently adding the first set of results with the second set of results to provide a first coherent accumulation;

calculating ~~the~~a first set of square-magnitudes for ~~of~~the first set of results and the second set of results_with the first coherent accumulation, wherein the calculated first set of square magnitudes each have a corresponding time indexed location; and

comparing the calculated first set of square-magnitudes~~of the first and the second sets of~~ ~~results~~ to a threshold to identify search results, wherein the time-indexed locations of the calculated first set of square-magnitudes that surpass the threshold identify the delays and gains of the first and second sets of data associated with the propagation paths.

10. (Currently Amended) The method of claim 9, further comprising:

stalling the pilot channel chip sequence for a selected interval of time;

generating another pilot channel chip sequence starting from another pilot symbol boundary;

loading tap coefficients of the matched filter with a conjugate of the other pilot channel sequence;

operating the matched filter to correlate a third set of data with the conjugate of the other pilot channel sequence to produce a third set of results corresponding to the third set of data, wherein the third set of data is associated with propagation paths for the received signal;

operating the matched filter to correlate a fourth set of data with the conjugate of the other pilot channel sequence to produce a fourth set of results corresponding to the fourth set of data, wherein the fourth set of data is associated with propagation paths of the received signal;

coherently adding the third set of results with the fourth set of results to provide a second coherent accumulation;

calculating ~~the~~ a second set of square-magnitudes ~~of~~ for the third set of results and the fourth set of results with the second coherent accumulation wherein the second set of square magnitudes each have a corresponding time indexed location;

non-coherently adding the first set of square magnitudes to the second set of square magnitudes ~~calculated square-magnitudes of the first set of results and the second set of results~~ ~~with the calculated square-magnitudes of the third set of results and the fourth set of results~~; and

comparing the calculated second set of square-magnitudes ~~of the third and the fourth sets~~ ~~of results~~ to the threshold along with the calculated first set of square-magnitudes ~~of the first and~~ ~~second sets of results~~ to identify search results, wherein the time-indexed locations of the calculated first set and second set of square-magnitudes that surpass the threshold identify the delays and gains of the first, second, third, and fourth sets of data associated with the propagation paths.

11. (Original) The method of claim 9, wherein the pilot channel sequence corresponds to a pseudo-random sequence that corresponds to the downlink scrambling code related to a code division multiple access system.

12. (Previously Presented) The method of claim 9, wherein the first set of data associated with the propagation paths is de-multiplexed into odd index data and even index data prior to operating the matched filter.

13. (Currently Amended) The method of claim 9, wherein the calculated first set of square-magnitudes ~~of the first set of results~~ and the calculated second set of square-magnitudes ~~of the second set of results is~~ are appended to a vector that is then processed for comparison to the threshold.

14. (Previously Presented) An apparatus for multi-path searching such that the apparatus detects delays and gains of different propagation paths for a received signal, comprising:

a means for correlating data corresponding to a first one of the propagation paths of the received signal with a conjugate of a pilot channel sequence;

a means for repeating the correlation for other propagation paths of the received signal, wherein the other propagation paths correspond to a first set of propagation paths that also includes the first one of the propagation paths;

a means for coherently accumulating results from the correlation of the first set of propagation paths;

a means for calculating the square-magnitudes of the coherently accumulated results from the correlation of the first set of propagation paths; and

a means for comparing the calculated square-magnitudes of the coherently accumulated results from the correlation of the first set of propagation paths to a threshold and identifying search results for the first set of propagation paths from the calculated square-magnitudes of the coherently accumulated results from the correlation of the first set of propagation paths that surpass the threshold, wherein the search results for the first set of propagation paths identify delays and gains of the first set of propagation paths.

15. (Previously Presented) The apparatus of claim 14, further comprising:

a means for repeating the correlation for a second set of propagation paths;

a means for coherently accumulating results from the correlation of the second set of propagation paths;

a means for calculating the square-magnitudes of the coherently accumulated results from the correlation of the second set of propagation paths;

a means for non-coherently accumulating the calculated square-magnitudes of the coherently accumulated results from the correlation of the first set of propagation paths with the calculated square-magnitudes of the coherently accumulated results from the correlation of the second set of propagation paths; and

a means for comparing the calculated square-magnitudes of the coherently accumulated results from the correlation of the second set of propagation paths to the threshold and identifying search results for the second set of propagation paths from the calculated square-magnitudes of the coherently accumulated results from the correlation of the second set of propagation paths that surpass the threshold, wherein the search results for the second set of propagation paths identify delays and gains of the second set of propagation paths.

16. (Currently Amended) The apparatus of claim 15, wherein the calculated square magnitudes of the coherently accumulated results from the correlation of the first set of propagation paths and the calculated square magnitudes of the coherently accumulated results from the correlation of the second set of propagation paths are compared to the threshold substantially at in the same time interval.

17. (Currently Amended) The apparatus of claim 14, further comprising a means for stalling the pilot channel sequence for a selected interval of time prior to repeating the correlation for a the second set of propagation paths.

18. (Currently Amended) The apparatus of claim 14, further comprising a means for de-multiplexing the data corresponding to the first one the propagation paths into odd index data and even index data prior to correlating data corresponding to the first one the propagation paths of the received signal with a the conjugate of the pilot channel sequence.

19. (Currently Amended) The apparatus of claim 14, wherein the means for correlating data further comprises a means for loading tap coefficients of a matched filter with a the conjugate of the pilot channel sequence, wherein the matched filter operates for a selected interval to produce the results of the correlation.

20. (Currently Amended) The apparatus of claim 14, wherein the calculated square-magnitudes of the coherently accumulated results from the correlation of the first set of propagation paths is appended to a vector that is then processed for comparison to the threshold.

21. (Previously Presented) The apparatus of claim 14, further comprising a radio resource control, wherein the radio resource control is arranged to process the search results and assign fingers in a rake receiver in response thereto.

22. (Previously Presented) The apparatus of claim 14, further comprising a radio resource control, wherein the radio resource control is arranged to process the search results and select a new serving cell in response thereto.

23. (Previously Presented) The apparatus of claim 14, further comprising a radio resource control, wherein the radio resource control is arranged to process the search results and determine received power in response thereto.